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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,976	09/17/2003	Chad A. Mirkin	083847-0201	1948

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FOLEY AND LARDNER LLP  
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3000 K STREET NW  
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EXAMINER
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BASHORE, ALAIN L

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/663,976

**Applicant(s)**

MIRKIN ET AL.

**Examiner**

Alain L. Bashore

**Art Unit**

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**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-102 is/are pending in the application.
- 4a) Of the above claim(s) 76-102 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-75 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments Concerning 35 U.S.C. 103 rejection***

1. Applicant's arguments, filed 4-27-06 with respect to 35 U.S.C. 103 rejection of record have been fully considered and are persuasive. The 35 U.S.C. 103 rejection of record has been withdrawn.

### ***Drawings***

2. The drawings filed 4-27-06 are hereby approved. The previous objection to the drawings is withdrawn.

### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-75 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,635,311 in view of Nakata et al, Nanao et al, and Zhang et al.

There is additionally claimed to Mirkin et al:

Use of a gold surface;

Sulfur compound; and,

AFM tips.

The presently claimed application recites: a substrate, a nanoscopic tip, and a precursor, all which broadly encompass what is additionally claimed above.

There is not claimed by the patent to Mirkin et al: a magnetic nanostructure precursor which is converted to a magnetic nanostructure after depositing.

Nakata et al discloses a magnetic precursor which is converted to a magnetic structure after depositing (col 5, lines 20-65; col 6, lines 10-23).

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It would have been obvious to one with ordinary skill in the art to include claiming a magnetic nanostructure precursor which is converted to a magnetic nanostructure after depositing because both Nakata et al and Mirkin et al teach the fineness required for deposited materials (col 1, lines 52-68 to Nakata et al; col 1, lines 19-23 to Mirkin et al).

There is not claimed by the patent to Mirkin et al: a soft or semi-hard magnetic nanostructure precursor.

Nanao et al discloses the hardness of a magnetic nanostructure precursor (col 12, lines 6-10).

It would have been obvious to one with ordinary skill in the art to include claiming soft or semi-hard because Nanao discloses different hardness for different end use (col 12, lines 6-10).

There is not claimed by the patent to Mirkin et al: use of a sol-gel as precursor, size dimensions.

Zhang et al discloses use of a sol-gel as precursor (para 0346), size dimensions ( para 0193, 0366).

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It would have been obvious to one with ordinary skill in the art to include claiming a sol-gel as precursor because both Zhang et al and Mirkin et al teach lithographic technique.

It would have been obvious to one with ordinary skill in the art to include claiming size dimensions because Zhang et al teach miniaturization for resolution purposes (para 0346).

5. The double patenting rejection regarding 6,827,979 has been withdrawn.

#### ***Response to Arguments***

6. Applicant's arguments filed 4-27-06 regarding double patenting rejection of record have been fully considered but they are not persuasive. Further explanation has been given regarding this rejection.

#### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alain L. Bashore whose telephone number is 571-272-6739. The examiner can normally be reached on about 7:30 am to 5:00 pm (Mon. thru Thurs.).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alain L. Bashore  
Primary Examiner  
Art Unit 1762